



CANCER PREVENTION INSTITUTE OF CALIFORNIA

Preventing Cancer. Promoting Life.

Memorandum Concerning Cancer Incidence in Treasure Island, San Francisco, California from the Greater Bay Area Cancer Registry June 9, 2014

Introduction

In response to a request from a concerned citizen, we investigated the potential excess of cancer on Treasure Island using data from the Greater Bay Area Cancer Registry. This registry collects and manages information on persons diagnosed with cancer and these data are obtained from physicians, hospitals, and other cancer treatment facilities as mandated by law. Cancer data in the Greater Bay Area (Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, Santa Cruz, San Benito and Monterey counties) are available from 1988 onward; data are currently complete through 2011.

This assessment was conducted consistent with guidelines developed by the California Cancer Registry, California Department of Public Health. These results have been reviewed and approved by the California Department of Public Health, as well as Research Scientists at the Cancer Prevention Institute of California (CPIC).

Report on Findings

In response to the request, we focused our analysis on the years 2002 to 2011 to determine the number of cancer cases reported among residents of Treasure Island, and whether there appeared to be any trend that might warrant further investigation. We are pleased to report that our investigation did not uncover any evidence of higher-than-expected cancer incidence on Treasure Island during this time.

From 2002 to 2011, there were 48 total cancer diagnoses among residents of Treasure Island that were reported to the cancer registry (an average of about 5 cases per year). For most specific types of cancer, there were fewer than five cases diagnosed (oral, colon, liver, pancreas, lung, breast, thyroid, myeloma, leukemia). There were 11 cases of prostate cancer, and six cases of lymphoma (different types).

It is of note that cancer is not one disease but a generic term used to describe several diseases that share one similar trait: uncontrollable cell growth. Different cancer types have very different etiologies and risk factors (traits associated with a disease, like smoking for lung cancer), which can make identifying a potential 'cluster' difficult. In addition, very small



numbers (both cases and population size), such as in the small population of Treasure Island, make any sort of meaningful site-specific statistical analysis infeasible. That being said, we did perform an “all cancer sites” analysis, the results of which can only be used for educational purposes.

As stated by the Centers for Disease Control (CDC) and the Council of State and Territorial Epidemiologists (CSTE) in their guidelines on investigating suspected cancer clusters (see: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6208a1.htm>): “— *An all-cancer SIR (i.e., one calculated for all types of cancers combined) might be useful for communication and educational purposes, but it is not useful for explaining or exploring potential etiologies. If an all cancer SIR is presented with the results, a discussion of its limitations for investigating etiologies and its usefulness for cancer education should be included.*”

We evaluated the observed and expected numbers of all cancers observed from 2006 to 2011 on Treasure Island, using reference rates for all cancers from Alameda, Contra Costa, Marin, San Francisco and San Mateo counties combined, and population data from the 2010 U.S. Census. We accounted for the age, sex, and racial/ethnic composition of the Treasure Island population. Our finding of an observed/expected ratio (standardized incidence ratio) for the total population (both sexes, all races) of 1.1; 95% confidence interval 0.5-1.9, indicating that cancer rates among residents of Treasure Island are not statistically different than other similar communities in the Greater Bay Area.

Discussion

We note that the population of Treasure Island has fluctuated greatly over the years. U.S. Census data indicate that in the year 2000, the population was 1,453. In 2010, the population was 2,880; this doubling over the course of 10 years complicates the interpretation of changes in cancer rates over time. In such a mobile community, individuals with cancer may not have lived in the area long enough for their cancers to have a common cause. Cancer registry data do not include duration of residence in a certain area, which means that if there is some environmental concern, these data cannot be used to link any perceived increase in incidence to potential exposures. That being said, if there is some exposure of concern and there are enough long-term residents in a certain area, the data could pick up the increased incidence when comparing the observed cases to an expected number based on cancer rates in a comparable area. Registry data also do not include information on the presence of environmental exposures, or prevalence of some risk factors that are well known to be associated with cancers (like smoking).

Conclusion

A statistically significant cancer cluster involves a greater than expected number of cases given the size, age and gender distribution, and local cancer incidence of the population. Though investigations of most clusters determine there are not more cases than expected by chance, we consider it good public health practice to respond to community concerns about every cancer cluster, perceived or real. ***Our investigation revealed that there is no evidence of significantly elevated incidence rates of all cancers among the residents of Treasure Island.***



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Note

This memorandum contains the findings of our investigation, originally communicated to the concerned citizen via email on May 30, 2014. For the purpose of transparency to all concerned parties, and confidentiality of the citizen who originally contacted us, we have prepared this memorandum at the request of the Health Officer of the City and County of San Francisco.

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